



DRAFT Environmental Assessment for Upper Spotted Dog Creek Restoration Project



Prepared For

Montana Department of Fish, Wildlife and Parks
Region 2
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May 2020

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Draft Environmental Assessment for Upper Spotted Dog Creek Restoration Project

I. PROPOSED ACTION DESCRIPTION

1. Type of Proposed Action

The proposed Upper Spotted Dog Creek Restoration Project includes restoration work on approximately 6,000 feet of upper Spotted Dog Creek. Proposed restoration activities include:

- Channel realignment and new channel construction
- Existing channel enhancement
- Streambank construction and stabilization
- Floodplain grading and surface roughness
- Wetland creation and enhancement
- Floodplain, wetland, and streambank revegetation
- Slope wetland restoration
- Instream beaver habitat structure construction
- Riparian perimeter fencing
- Weed control

Details of the proposed project are included in the *Upper Spotted Dog Creek Restoration Design Plan Set* (hereafter, Design Plan Set) in Appendix A (RDG 2020).

2. Agency Authority for the Proposed Action

The Spotted Dog Wildlife Management Area (WMA or SDWMA) is managed by Montana Fish, Wildlife and Parks (MFWP). The proposed action is being undertaken by the Montana Department of Justice, Natural Resource Damage Program (NRDP) on behalf of MFWP.

Project Sponsor

Natural Resource Damage Program
Montana Department of Justice, Natural Resource Damage Program
P.O. Box 201425
Helena, Montana 59620

3. Anticipated Schedule

The Upper Spotted Dog Creek Restoration Project would be split into two construction phases, Phase 1 and Phase 2. Phase 1 work includes: slope wetland restoration, instream beaver habitat structure construction, and weed control. The proposed schedule for Phase 1 is approximately August 1, 2020 to November 15, 2020. All other work would be completed during Phase 2, including: channel construction; existing channel enhancement; streambank construction and stabilization; floodplain grading and surface roughness; wetland creation and enhancement; riparian perimeter fencing; and floodplain, wetland, and streambank revegetation. The proposed schedule for Phase 2 is approximately August 1, 2021 to November 15, 2021.

EA Public Comment Period: May 14 through June 12, 2020

Decision Notice Published: June 2020

4. Location Affected by the Proposed Action

The proposed project location includes approximately 6,000 linear feet (1.1 miles) of upper Spotted Dog Creek and the adjacent floodplain within Sections 25, 26 and 36, Township 9 North, Range 8 West (Figures 1 and 2). The project is located within the Spotted Dog WMA, located northwest of Deer Lodge in Powell County (Figure 2). The Design Plan Set shows the vicinity of the proposed project on Sheet 1.0, and an overview of the proposed treatment locations is shown on Sheet 3.0 (Appendix A, Part 1; RDG 2020).



Figure 1. Location of the proposed Upper Spotted Dog Creek Restoration Project.

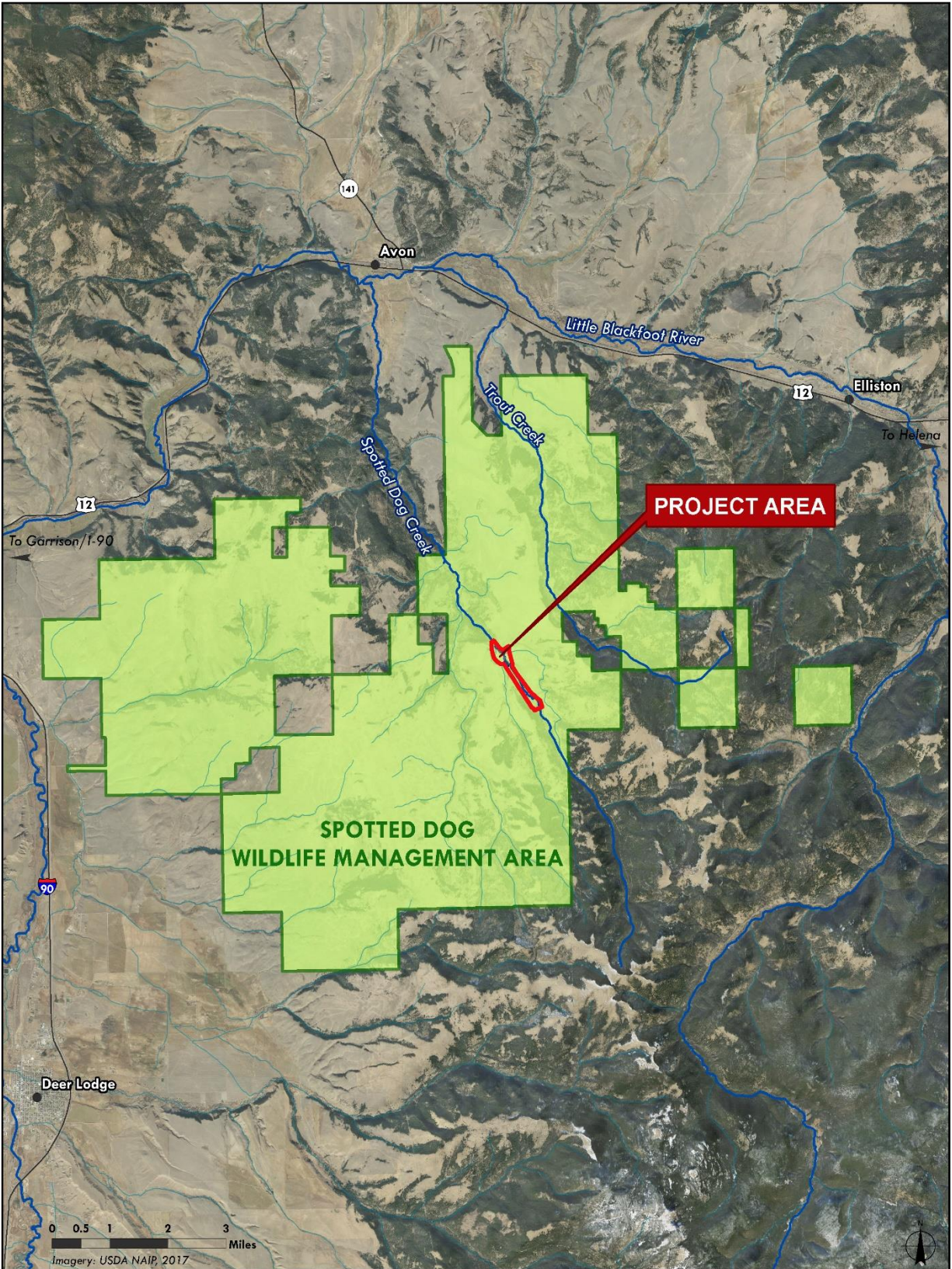


Figure 2. Landscape context map of the proposed Upper Spotted Dog Creek Restoration Project within the Spotted Dog Wildlife Management Area.

5. Project Size

Land Type	Affected Area (estimated in acres)	Land-type Total (acres)
a. Developed:		
Residential	0	
Industrial	0	
Recreation	0	0
b. Open Space/ Woodlands/ Recreation	0	0
c. Wetlands/ Riparian Areas*	6.2	6.2
d. Floodplain**	6.2	6.2
e. Productive:		
Irrigated Cropland	0	
Dry Cropland	0	
Forestry	44	
Rangeland	0	
Other	0	44
Total		50.2

*6.2 acres of Wetlands/ Riparian Areas include the Spotted Dog Creek channel.

**6.2 acres of Floodplain = same area as the Wetlands/ Riparian Areas.

Sheet 3.1 Project Materials and Quantities, in the Design Plan Set provides details of treatment quantities (Appendix A, Part 1; RDG 2020). Sheets 5.0 through 5.11 show the proposed plan view, structure layout, and grading plan (Appendix A, Parts 3-5; RDG 2020).

6. Permits, Funding and Overlapping Jurisdiction

- a. **Permits:** Permits would be filed at least 2 weeks prior to project start

Agency Name	Permits
MT Department of Environmental Quality (DEQ)	318 Short Term Water Quality Standard for Turbidity
MT Fish, Wildlife & Parks (FWP)	124 Montana Stream Protection Act
US Army Corps of Engineers	404 Federal Clean Water Act

- b. **Funding:**

Entity	Funding Amount (status)
Natural Resource Damage Program	850,000 (anticipated)
Total Project Cost	\$850,000

- c. **Other Overlapping Jurisdictional Responsibilities:**

Agency Name	Type of Responsibility
State Historic Preservation Office	Cultural Clearance

7. Narrative Description of the Proposed Action

An engineering firm was hired to develop a restoration design for restoring impaired conditions in the project area. This design includes actions to create, enhance, and protect wetland, riparian, and aquatic habitat conditions within the Spotted Dog WMA. Details of the proposed restoration activities are shown in the Design Plan Set (Appendix A; RDG 2020). The project would be split into two construction phases, Phase 1 and Phase 2, as outlined in Figures 3 and 4 and in the Anticipated Schedule section.

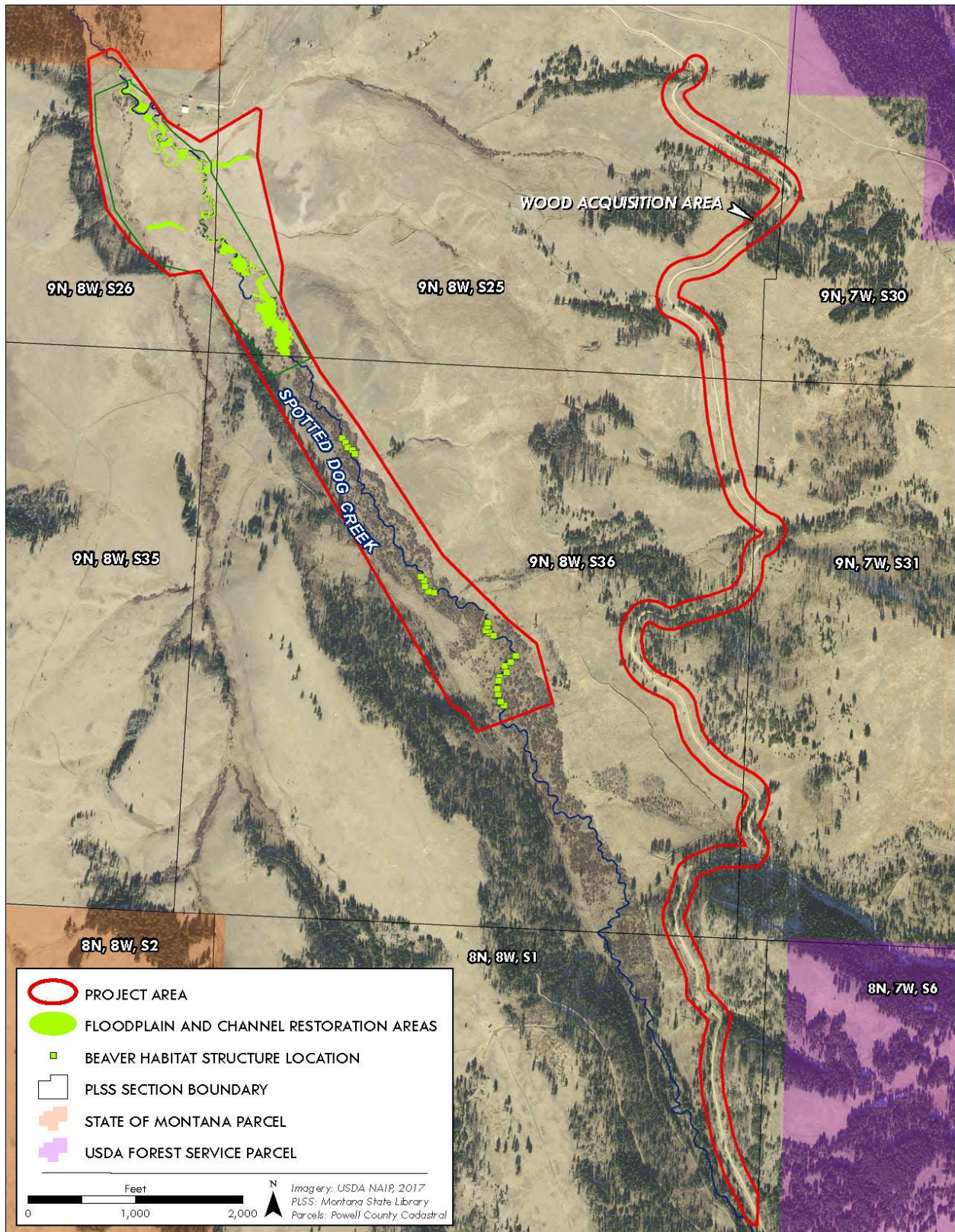


Figure 3. Overview of the proposed Upper Spotted Dog Creek Restoration Project area.

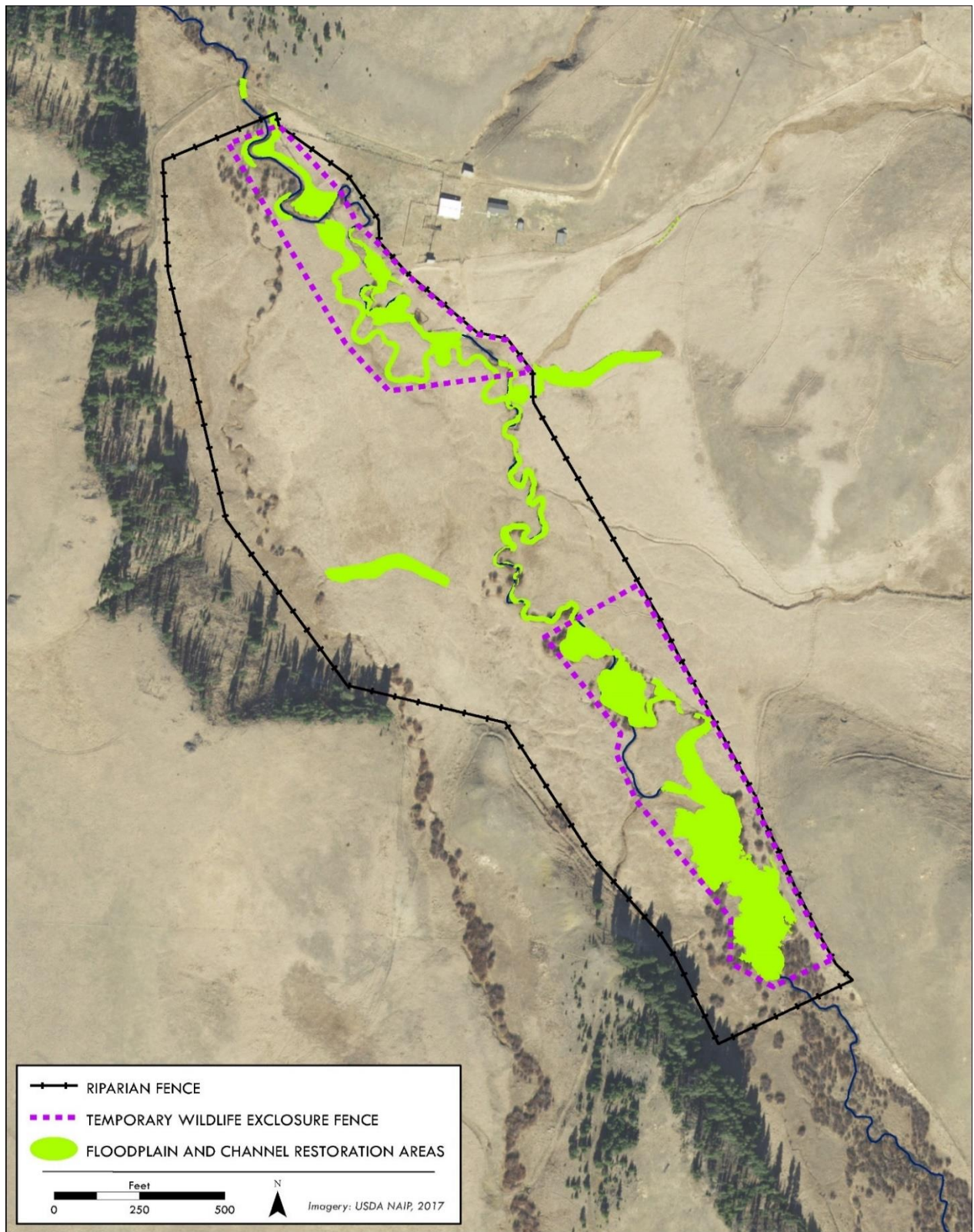


Figure 4. Approximate location of fenced areas as part of the Upper Spotted Dog Creek Restoration Project.

Phase 1

Slope wetland restoration--Slope wetlands would be restored by plugging shallow channelized flow areas and re-contouring ditches that were constructed to drain historical wetlands. Plugging and re-contouring these areas would restore the natural topography and hydrology of these wetlands. Slope wetlands would be revegetated by transplanting salvaged sod as well as shrubs and native seed.

Instream beaver habitat structures--In the upstream portion of the project area, instream beaver habitat structures would be installed to mimic the ecological function of natural beaver dams. These structures are designed to reduce stream velocities, elevate the water table within the adjacent riparian area, encourage sediment deposition in incised stream channels, spread high flows out onto the floodplain, and allow for natural expansion of riparian and wetland vegetation. These structures are designed and placed to encourage expansion of the existing beaver population into the project area, with the long-term goal of allowing beavers to perpetuate restoration actions into the future.

Phases 1 and 2

Weed control--Weed management, targeting noxious weed species, would be completed pre- and post-construction. Pre-treatment of noxious weeds would occur within anticipated disturbance areas. Pre-treatment would occur during the growing season (May-July) in 2020 (Phase 1) and 2021 (Phase 2). Post-treatment weed control would occur within the actual areas disturbed during construction during the growing season (May-July) in 2021 (Phase 1) and 2022 (Phases 1 and 2). Weed control would consist of selective application of herbicides appropriate for the weed species and site conditions.

Areas disturbed during construction would be revegetated using transplanted sods, shrubs, and native seed. Where appropriate, disturbed areas would also be treated with decompaction, surface roughness, and woody material to further encourage weed resistance, resistance to erosion, soil development, and retention of soil moisture, and to provide microsites for plants to colonize.

Phase 2

Channel realignment and new channel construction--Channel restoration activities include a combination of existing channel enhancement and channel realignment. Existing channel enhancement would occur within the current channel alignment while channel realignment would involve constructing a new channel through portions of the existing floodplain. Both channel enhancement and realignment activities include building constructed riffles in portions of the channel and installing streambank treatments. Abandoned stream channels would be converted to wetland features and planted with native shrubs and herbaceous wetland species.

Existing channel enhancement--Constructed riffles consist of a mix of native alluvial substrate and imported cobble that replicates natural streambed materials. Constructed riffles provide vertical stability in the channel between pool features and/or meander bends.

Streambank construction and stabilization--Streambank treatments include large wood structures integrated with sod and brush bank treatments. Large wood structures consist of layers of large logs and woody debris that are built into the bankline to provide temporary bank protection and create hydraulic conditions that support deep pools and provide cover for aquatic species. Pools may be excavated in the channel in association with large wood structures. Sod and brush bank treatments are built on a rock and wood toe. Brush and small wood are placed on the rock and wood toe up to eight inches below the bankfull water surface elevation. Dormant willow cuttings are integrated into the backfill material, so the cuttings are in contact with the water table throughout the growing season. The bank treatments are capped with native sod salvaged from within the construction area. Sod and brush bank treatments create a complex, vegetated bank margin that supports improved aquatic habitat and provides long-term bank stability as woody vegetation establishes along the channel.

Floodplain grading and surface roughness--Channel restoration would be accompanied by selective floodplain grading to enhance floodplain connectivity and create conditions that support a more diverse range of native riparian vegetation communities. Constructed floodplain surfaces would include topographic diversity and roughness features similar to natural conditions on vegetated floodplain surfaces. Floodplain roughness consists of adding ridges and furrows that range from 0.5 feet above to 0.5 feet below the finished ground surface. Small wood and brush incorporated into the surface provide stability and contribute organic matter to the soil.

Additional floodplain treatments include construction of swales, wetlands, and willow trenches. Constructed swales are shallow depressions intended to support establishment of riparian shrubs by providing microsites for planted shrubs and capturing sediment, nutrients, and seeds transported from overbank flows and wind. The bottom elevation of swale features would be approximately 0.5 feet above the bottom elevation of the Spotted Dog Creek channel. Wetlands would be constructed in areas where the current channel is abandoned due to channel realignment. Willow trenches establish willows in the constructed floodplain surface to provide vegetative cover and surface roughness. Willow trenches are dug three to four feet deep. Live, dormant willow cuttings are then placed in the trenches where they are in contact with the water table throughout the growing season. The trench is then backfilled to match the surrounding floodplain surfaces.

Riparian fencing--Two fenced areas would be constructed that enclose the largest areas of floodplain construction and revegetation (Figure 4). First, a riparian fence consisting of 3-strand wire would be installed around the perimeter of the lower portion of the project area to enclose the area of channel and floodplain revegetation work. This fence would be installed to protect the restored stream and riparian areas from ungulate and livestock impacts for a period of at least 10 years. The riparian fence may remain in place longer depending on conditions within the restored area and the level of trespass cattle use on the WMA in the future. The riparian fence would be constructed to meet wildlife-friendly fencing standards. Second, an 8-foot tall, temporary fence would be installed around newly constructed floodplains to protect these areas from wildlife browse for a period of 5-7 years (Figure 4).

Floodplain, wetland, and streambank revegetation--Revegetation treatments include woody vegetation planting and seeding. Woody vegetation planting would occur along newly constructed streambanks and within constructed floodplain swales and wetlands to provide stability and increase habitat diversity. Approximately 1,750 one-gallon-sized container-grown native trees and shrubs would be planted in the project area. Cuttings from willows that may be removed or disturbed during construction activities would be used as needed and as they become available. Individual browse protectors would also be installed around planted trees and shrubs to protect the plants from wildlife browse as vegetation becomes established. Broadcast seeding of native grass and forb species would occur within all disturbed areas to provide rapid re-establishment of desired vegetation.

8. Purpose and Need

Degraded conditions in the vicinity of the proposed project area have been documented in professional reports including:

- A 2014 assessment by Geum and River Design Group that rated the project reach that is the focus of proposed restoration activities (SD-01c) as “Not Sustainable.” The upstream reach of Spotted Dog Creek where beaver habitat structures are proposed (SD-01b) received a rating of “Sustainable” (Geum and RDG 2014).
- A 2015 Ecological Inventory of the SDWMA by Hansen et al. (2015). This report categorized reaches of Spotted Dog Creek within the majority of the proposed project area as “Unhealthy.” Portions of the stream where beaver habitat structures are proposed were categorized as “Healthy, but with Problems” (ESG 2015).

Spotted Dog Creek within the Spotted Dog WMA was identified as a priority area for creating, enhancing, and protecting wetland and riparian areas in the *Final State Wetlands/Riparian Areas Plan* (Montana

NRDP 2019b). In addition, in the *Upper Clark Fork River Basin Aquatic and Terrestrial Resource Restoration Plans/ Updated February 2019* (Restoration Plans; NRDP 2019a), lower Spotted Dog Creek, downstream of the project area is an Aquatic Priority 2 Stream, and upper Spotted Dog Creek, including the proposed project area, occurs within a Terrestrial Priority 1 area.

Restoration activities would address the causes of stream impairment by managing grazing impacts, establishing sustainable stream morphology, and improving riparian vegetation conditions. Grazing impacts would be addressed through improved riparian fencing and fence repairs. Stream morphology would be addressed by reducing channel entrenchment through channel geometry modifications and floodplain reconnection, increasing channel sinuosity through planform re-alignment, encouraging expansion of the existing beaver population in Spotted Dog Creek, and improving sustainability by establishing pool-riffle morphology and streambank vegetation. Riparian vegetation would be addressed by improving floodplain connection, increasing floodplain topographic complexity, and by planting diverse riparian vegetation communities. Streambank treatments would be installed to address short-term stability and to promote the establishment of streambank vegetation.

Specific goals of the Upper Spotted Dog Creek Restoration Project include:

1. improve streambank cover and increase woody debris,
2. maintain and create deep pools,
3. maintain clean substrate,
4. restore floodplain connection,
5. increase woody vegetation cover and diversity,
6. eliminate grazing impacts and noxious weeds,
7. reduce channel entrenchment,
8. reduce fine sediment from severe bank erosion,
9. establish sustainable channel morphology, and
10. promote beaver activity and evolution of the site to wetland complexes.

II. ALTERNATIVES

Alternative A: No Action

Under the No Action alternative, MFWP and NRDP and its partners would not implement the proposed restoration actions and instead maintain land management and land use practices as defined in the *Spotted Dog Wildlife Management Area Habitat Plan* (hereafter, SDWMA Habitat Plan; MFWP 2018). Degraded habitat conditions on Spotted Dog Creek would slowly improve with reduced pressure from grazing. However, improvement of the wetland and riparian areas to pre-disturbance conditions would likely take decades to centuries. During this time, the ecosystems within SDWMA and of which the WMA is a part would remain below their functional capacity.

Alternative B: Proposed Action

The proposed action is the preferred alternative and includes implementing the proposed restoration activities described in the *Type of Proposed Action* and the *Narrative Description of the Proposed Action* sections (I.1, I.7) above. Under the proposed action, upper Spotted Dog Creek would be restored to the point that the stream can much more rapidly recover and repair itself to pre-disturbance conditions over time. The restoration of Spotted Dog Creek and associated wetlands and riparian areas would contribute significantly to ecosystem health at multiple spatial scales and would help address resource concerns and proposed restoration actions as outlined in the SDWMA Habitat Plan as well as NRDP's Restoration Plans (2019a).

III. AFFECTED ENVIRONMENT

The proposed project is located in the upper half of the Spotted Dog Creek watershed, within the Spotted Dog WMA managed by MFWP. SDWMA includes lands owned by the Montana Department of Natural Resources and Conservation (DNRC) and by MFWP. MFWP acquired its SDWMA lands on September 2, 2010, and goals of the purchase included:

- Permanently protect fish and wildlife resources
- Enhance critical winter habitat for elk, mule deer, and antelope
- Maintain migratory patterns to and from the National Forest for a regionally significant elk herd
- Provide lasting public access to previously inaccessible lands
- Maintain landscape connectivity between the Blackfoot and Clark Fork watersheds
- Replace lost and injured natural resources that were the subject of Montana versus ARCO

A management plan for the WMA was finalized in 2018, *Spotted Dog Wildlife Management Area Habitat Plan* (SDWMA Habitat Plan; Spotted Dog Work Group and MFWP 2018). The Habitat Plan identifies priorities and strategies for conserving and enhancing fish and wildlife habitat on the WMA. The project area within the WMA is being managed for riparian and wetland resource values. Protecting wetland and riparian systems from unauthorized livestock is listed as a priority in the Habitat Plan. Current grazing impacts are a result of legacy cattle and sheep grazing, and some unauthorized cattle that still access the area each year. Additional fencing is proposed as part of this project to eliminate cattle access to the project area along Spotted Dog Creek.

The project area is characterized by disturbed conditions from historical and current grazing, irrigation diversions, vegetation clearing, wetland drainage, and decreased beaver activity. Lack of woody riparian vegetation and reduction of beaver activity has resulted in a straightened channel planform contributing to channel entrenchment and loss of floodplain connection. While beaver damming activity can reverse channel entrenchment and promote wetland and riparian area expansion in some areas, currently in this section of Spotted Dog Creek beaver dams are short-lived and ephemeral. Therefore, the potential benefits of beaver activity are not being realized and, in some cases lack of beaver activity may be contributing to degradation issues. Grazing has suppressed riparian vegetation growth and contributed to streambank instability and erosion. As a result of all these impacts acting in concert, stream habitat conditions are impaired within the proposed project area. Existing aquatic habitat conditions are characterized by elevated water temperatures from lack of shade, embedded substrate from bank erosion, and low complexity from loss of pools and instream woody debris.

In general, the riparian environment in the project area is dominated by a narrow band of willows along the stream channel. The understory is dominated by pasture grasses in areas where the channel is entrenched, while wet forbs and graminoids are the dominant vegetation in less entrenched areas. Entrenchment generally decreases in a downstream direction and wetter herbaceous species increase in abundance. Historically, the floodplain was heavily grazed by cattle, which has led to removal of vegetation along streambanks, a low distribution of age classes of woody species, and umbrella-shaped growth forms for many older willows. In wetter herbaceous areas, grazing has reduced species diversity, increased cover by invasive species, and resulted in soil disturbance, all of which affect site hydrology. Some trespass cattle still access the restoration area on an annual basis. Reduced willow cover may also be the result of historically high numbers of moose on the WMA (Spotted Dog Work Group and MFWP 2018).

Shrub cover increases upstream of the channel restoration portion of the project area, although grazing and subsequent loss of floodplain connection has reduced woody plant cover, removed young age-classes, and resulted in loss of vegetation along streambanks that is accelerating bank erosion. The impacts of reduced beaver activity become more pronounced in these upstream areas and are a result of severe channel entrenchment that is beyond the ability of beavers to naturally restore through damming

activity. The historic reduction of beavers in the project area is thought to be one of the primary factors resulting in initial channel entrenchment. Due to channel incision and associated lowering of the water table, floodplain surfaces have become drier and now support drier shrub and herbaceous species. Weed cover, predominantly Canada thistle (*Cirsium arvense*) and houndstongue (*Cynoglossum officinale*), increases significantly on these drier surfaces. Old overflow channels from historical beaver activity are present throughout this area. Wetland plant communities are mostly limited to the lowest elevation bench along the channel, within old overflow channels, and along the lowest spots within depressions and swales away from the main channel. These wetland plant communities consist of a mix of shrub and herbaceous species and are dominated by sedges and willows.

Existing infrastructure in the project area consists of an unnamed dirt road that crosses the stream channel at the downstream extent of the project area via a concrete ford. An old wood bridge is present over the Spotted Dog Creek channel and would be removed. A small group of buildings, the historic Spotted Dog Ranch headquarters, is located to the northeast of the project area and would be unaffected by proposed stream restoration activities.

IV. ENVIRONMENTAL REVIEW

The tables below summarize potential effects to the physical environment and human environment if the preferred alternative is implemented.

A. Physical Environment

Table 1. Land Resources

Will the proposed action result in potential impacts to:	Unknown	Potentially significant	Minor	None	Can be mitigated	Comment
A. Soil instability or changes in geologic substructure?			X		Yes	1A
B. Disruption, displacement, erosion, compaction, moisture loss, or over-covering of soil which would reduce productivity or fertility?			X		Yes	1B
C. Destruction, covering or modification of any unique geologic or physical features?				X		1C
D. Changes in siltation, deposition or erosion patterns that may modify the channel of a river or stream or the bed or shore of a lake?			X		Yes	1D
E. Exposure of people or property to earthquakes, landslides, ground failure, or other natural hazard?				X		

Comments:

1A. Channel realignment and floodplain grading proposed by the project may result in temporary soil instability if high flows occur immediately following construction. Overall, the proposed restoration actions would reduce existing areas of soil instability associated with eroding streambanks. In-channel and streambank structures are designed to provide short-term stability during high flows as vegetation establishes along the channel and in the floodplain. No changes to the geologic substrate are expected.

1B. The proposed project would temporarily disturb soils during construction in association with channel realignment, floodplain grading, and temporary staging and access. All disturbed areas would be de-compacted as needed and revegetated through planting and seeding. The proposed project aims to increase floodplain connectivity along upper Spotted Dog Creek which would support the development of diverse riparian and wetland vegetation communities, increasing primary productivity in the restored areas.

1D. Construction and restoration activities would cause localized and temporary increases in turbidity and sediment delivery to Spotted Dog Creek. However, the existing siltation, deposition, and erosion patterns deviate from the likely historical condition and reflect a disturbed condition. Long-term issues with sediment delivery to the stream would be addressed through the proposed restoration project and would more than off-set potential negative impacts of restoration activities. The restoration project proposes to enhance and realign portions of upper Spotted Dog Creek to improve channel function and increase floodplain connectivity. The project would reduce sedimentation associated with eroding streambanks and would restore a more natural sediment transport regime. Proposed revegetation treatments would establish native riparian and wetland vegetation communities that would provide long-term streambank and floodplain stability to maintain natural erosion patterns.

Table 2. Water

Will the proposed action result in potential impacts to:	Unknown	Potentially significant	Minor	None	Can be mitigated	Comment
A. Discharge into surface water or any alteration of surface water quality including but not limited to temperature, dissolved oxygen or turbidity?			X		Yes	2A
B. Changes in drainage patterns or the rate and amount of surface runoff?			X		Yes	2B
C. Alteration of the course or magnitude of flood water or other flows?			X		Yes	2C
D. Changes in the amount of surface water in any water body or creation of a new water body?			X		Yes	2D
E. Exposure of people or property to water related hazards such as flooding?				X		2E
F. Changes in the quality of groundwater?				X		
G. Changes in the quantity of groundwater?			X			2G
H. Increase in risk of contamination of surface or groundwater?				X		
I. Effects on any existing water right or reservation?				X		2I
J. Effects on other water users as a result of any alteration in surface or groundwater quality?				X		
K. Effects on other users as a result of any alteration in surface or groundwater quantity?				X		
L. Will the project affect a designated floodplain?				X		2L
M. Will the project result in any discharge that will affect federal or state water quality regulations?			X		Yes	2M

Comments:

2A. The proposed project has the potential for short-term discharges or alterations of surface waters associated with construction work. The Design Plan Set, Sheet 4.3 Stormwater and Erosion Control, summarizes proposed practices to minimize/reduce sediment from entering Spotted Dog Creek and adjacent wetlands during project implementation (Appendix A, Part 2). Proposed practices include routing surface water runoff to non-wetland, natural depression features or constructing ditches at the toe of constructed slopes. Monitoring would occur to determine if additional control measures are needed that may include straw bales, coir wattles, or other best management practices (BMP).

For wetlands that intersect the project boundary or that have the potential to receive stormwater runoff, silt fences would be installed to prevent direct delivery of sediments (RDG 2020).

Sheet 4.4 Water Management Plan, from the Design Plan Set, summarizes proposed water management strategies for in-channel work (Appendix A, Part 2). Most new channel construction occurs outside of current channel locations and would therefore be constructed in dry conditions where there is no flowing surface water. For treatments that occur in the existing channel, temporary coffer dams would be used to isolate work areas and prevent water quality impacts (RDG 2020).

2B. The proposed project would alter and improve drainage patterns as well as the rate and amount of surface runoff by creating a more natural and stable channel pattern with appropriate channel dimensions. Proposed restoration actions as a whole would also improve floodplain connectivity to support increased water storage in the floodplain.

2C. The proposed project would alter the course and magnitude of flooding by improving floodplain connectivity that would restore annual and periodic flood duration and extent to a more natural condition. A restored stream channel and riparian area would natural attenuate flooding and spread flood waters over a larger part of the floodplain, potentially reducing flooding impacts downstream while creating a more resilient stream system in the restored reaches. These improvements may help facilitate expansion of the extent of beaver activity as well as encourage longer-term beaver activity in established colonies, leading to further improvements to floodplain habitat diversity and water storage. The restored flood regime would also support the development and establishment of diverse riparian and wetland vegetation communities in the floodplain that would provide higher quality habitat.

2D. The proposed project would create new surface water channels by realigning portions of the existing channel and creating off-channel wetlands. However, the project is not expected to increase or decrease overall water volumes in the stream, nor would it create a new waterbody entirely.

2E. Due to increased floodplain connectivity, the amount of water leaving the channel at low return intervals (i.e. two-year flood events) is expected to increase within the project area. The increased frequency of out of bank flows is not expected to negatively impact people or property. Adjacent infrastructure would remain outside the expected flood extents if the project is implemented.

2G. The project is expected to increase floodplain connectivity and wetland area, which is expected to result in increased groundwater storage in the floodplain. This is a beneficial change supporting the enhancement and expansion of wetlands in the project area.

2I. Irrigation diversions from Spotted Dog Creek occur upstream and downstream of the project area, but the proposed actions are not expected to alter water quantity in a way that would adversely impact the operation of these diversions or existing water rights.

2L. This project does not impact a mapped floodplain.

2M. A 318 Authorization would be acquired for the project to address short-term turbidity that is expected to occur during construction. As described for Comment 2A, stormwater and erosion control measures along with water management strategies would be employed to comply with water quality standards.

Table 3. Air

Will the proposed action result in potential impacts to:	Unknown	Potentially significant	Minor	None	Can be mitigated	Comment
A. Emission of air pollutants or deterioration of ambient air quality?			X		Yes	3A
B. Creation of objectionable odors?				X		
C. Alteration of air movement, moisture, or temperature patterns or any change in climate, either locally or regionally?				X		
D. Adverse effects on vegetation, including crops, due to increased emissions of pollutants?				X		
E. Will the project result in any discharge which will conflict with federal or state air quality regulations?				X		

Comments:

3A. Construction equipment including excavators, dump trucks, and all surface vehicles (ASVs) emit exhaust when in operation. Equipment would be in proper working order to limit excessive exhaust emissions. These emissions would be short-term, during times of operation, and any exhaust is expected to quickly dissipate following cessation of work.

Table 4. Vegetation

Will the proposed action result in potential impacts to:	Unknown	Potentially significant	Minor	None	Can be mitigated	Comment
A. Changes in the diversity, productivity or abundance of plant species (including trees, shrubs, grass, crops, and aquatic plants)?			X		Yes	4A
B. Alteration of a plant community?			X		Yes	4B
C. Adverse effects on any unique, rare, threatened, or endangered species?				X		4C
D. Reduction in acreage or productivity of any agricultural land?			X		Yes	4D
E. Establishment or spread of noxious weeds?			X		Yes	4E
F. Will the project affect wetlands, or prime and unique farmland?			X		Yes	4F

Comments:

4A. Changes to plant species diversity, productivity, or abundance as a result of the proposed project are expected to be beneficial to the stream and riparian area. Revegetation actions would support increasing native species diversity, abundance, and spatial extent. Channel and floodplain restoration actions are expected to improve hydrologic connectivity that would improve vegetation community productivity and restore historical conditions. Constructed swales and wetlands are also expected to increase the extent and diversity of riparian habitat with associated benefits to fish and wildlife habitat.

4B. The proposed project would alter existing plant communities by shifting them to a more appropriate community for the floodplain habitat. Changes in the plant communities would be most pronounced in the vicinity of channel construction and floodplain grading with the goal of increasing woody vegetation cover and diversity. Sheet 4.2 of the Design Plan Set provides the Vegetation Preservation and Salvage Plan for the project (Appendix, Part 2; RDG 2020). Within construction boundaries, riparian shrubs and high-quality wetland sods would be salvaged and transplanted to streambanks and placed within wetland features and swales constructed in the floodplain. No disturbances are planned for areas outside of proposed access routes and construction boundaries. Sheet 8.0 of the Design Plan Set provides the Floodplain Treatment Plan that describes revegetation treatments for areas of disturbed

soils within construction boundaries, including seeding, woody vegetation planting, and willow trenches (Appendix A, Part 6; RDG 2020). Access routes would be reclaimed following construction by de-compacting the soil as needed and seeding areas of bare soil with a native seed mix.

The wood acquisition area consists of aspen draws along the road that are being encroached on by conifer species, primarily common juniper (*Juniperus communis*) and Douglas fir (*Pinus ponderosa*). Conifers have replaced aspen over much of aspen's historic range and conifer encroachment into aspen can greatly suppress the understory biomass production of aspen stands (Stam et al. 2008). Targeted removal of conifers from these areas would provide the materials needed for the project and reduce encroachment of conifers in this area, a restoration action identified in the SDWMA Habitat Plan (Spotted Dog Work Group and MFWP 2018).

4C. Sources of existing information for threatened, endangered, or rare plant species included a data request from the Montana Natural Heritage Program (MNHP 2020) and an Ecological Inventory of the entire Spotted Dog WMA (ESG 2015). The MNHP does not report any threatened, endangered, or species of concern within the township, range, and sections that intersect the proposed project, including a one-mile buffer of these areas (MNHP 2020).

Within the Spotted Dog WMA as a whole, the Ecological Inventory conducted by ESG (2015) noted seven species of concern (SOC), including small round-leaved orchis (*Amerorchis rotundifolia*), annual paintbrush (*Castilleja exilis*), chaffweed (*Centunculus minimus*), wild daisy (*Erigeron formosissimus*), Coville's rush (*Juncus covillei*), Macoun's fringed gentian (*Gentianopsis macounii*), and straightbeak buttercup (*Ranunculus orthorhynchus* var. *platyphyllus*; ESG 2015). One additional species is listed as a potential SOC, orange agoseris (*Agoseris aurantiaca*; ESG 2015). The Ecological Inventory did not indicate specific locations for species occurrence and other previous assessments did not note the above species within the project area. However, suitable habitat for some of these species may occur within the project area as noted below. If any of these species is encountered in the project area during construction, efforts would be made to avoid damage to existing populations. Brief descriptions of these species and their preferred habitats are provided in the table below. Overall, restoring the stream channel, floodplain, and associated riparian habitat to a more natural condition would have a net benefit to native plant communities, especially when combined with weed control and on-going monitoring.

Common name	State rank	USFS rank	Global rank	Habitats	Relevance to project area
Round-leaved orchis ¹	S3	Sensitive	G5	Moist, shaded habitat of spruce forests generally around seeps and springs in limestone-derived soils	Unlikely to occur in project area
Annual paintbrush ¹	S2		G5	Moist, alkaline meadows in valley areas	Unlikely to occur in project area.
Chaffweed ^{1,2}	S2		G5	Wet, sparsely vegetated soils or mud around ponds, rivers, and streams in valley locations	Some areas of mineral soil or mud may provide suitable habitat for this species.
Wild daisy ¹	S1S3		G5	Meadows and forest openings in montane and subalpine zones	Meadows and forest openings on slopes adjacent to the project area may provide suitable habitat; however, the proposed action is unlikely to substantially affect those habitats.
Coville's rush ¹	S2S3		G5	Moist, gravelly or sandy soil along major water courses in valleys; or moist to wet seepy soil of slopes and meadows in montane to subalpine elevations	Depositional areas along the channel and wetlands may provide suitable habitat for this species, and restoration actions would likely improve this habitat.
Macoun's gentian ¹	S2	Sensitive	G5	Wet, organic soils of calcareous fens at valley and foothill elevations	Portions of the floodplain wetlands include layers of peat and may have historically supported wet meadows or possibly fens; however hydrologic alterations and other land use practices have likely limited the suitability of potential habitat for this species. Restoration actions are unlikely to cause negative impacts and may improve habitat.

Straightbeak buttercup ¹	S1S2		G5	Streambanks and moist meadows in the montane zone	Existing streambanks and floodplain wetlands may provide suitable habitat for this species, and restoration actions are unlikely to cause negative impacts and may improve those habitats
Orange agoseris ^{2,3}	S4		G5	Dry and moist meadows, grasslands and open slopes at montane to alpine elevations	Not listed as SOC in Montana
Pink agoseris (synonymous with orange agoseris) ^{2,3}	S3S4		G4Q	Dry and moist meadows, grasslands and open slopes at montane to alpine elevations	Listed as potential SOC in Montana. The valley bottom and slopes adjacent to the project area may provide suitable habitat; however, the proposed action is unlikely to substantially affect those habitats

Sources: ¹MNHP 2020b; ²Lesica 2012; ³MNHP 2018

4D. The project area is no longer used for hay production. The proposed project includes constructing a livestock fence to limit unauthorized cattle access to newly constructed streambank and floodplain areas, but it would not limit access to other areas of the valley bottom.

4E. Portions of the project area have existing noxious weed infestations. During construction, final locations of access routes and staging areas would attempt to avoid any major infestations of noxious weeds to prevent further spread of these species. Ground-clearing activities associated with construction would create areas of disturbed soils that could potentially be colonized by noxious weeds. However, revegetation treatments, including planting and seeding, would be implemented to re-establish desired native vegetation in all disturbed areas to limit the establishment of new weed infestations. Weed control would be completed within anticipated construction boundaries prior to and after construction is complete.

4F. The proposed project is expected to impact approximately 5.3 acres of wetland, including the Spotted Dog Creek channel. Impacts would occur in association with channel realignment, floodplain grading, and streambank treatments to restore connectivity between the stream and floodplain to improve stream and wetland function. Overall, the project is expected to result in a net increase in wetlands of approximately 2 acres. However, significantly more wetlands may be created through long-term rehabilitation of the stream and associated wetlands facilitated by reconstructed channels, greater floodplain connectivity, and potential expansion of beaver activity.

The project area is located within the MT644-Soil Survey of Powell County Area, Montana (Soil Survey Staff 2003). The project area includes the soil map unit Danvers clay loam, 4-8% slopes (map unit 49C) which has a farmland classification of 'Farmland of statewide importance'. The project area also includes Tetonview loam, 0-4% percent slopes (map unit 635) which is not prime farmland. The proposed restoration actions, including temporary access routes, would occur within approximately 0.9 acres of this soil map unit. The proposed actions are not expected to reduce productivity of the land, and within the restored riparian area, vegetation productivity is expected to increase in association with restored floodplain connectivity. The tree acquisition areas along the road include soil map units Crow-Bignell complex, 15-35% slopes (map unit 983E) and Roy-Shawmut-Danvers complex, 15-35% slopes (map unit 351E), neither of which are classified as prime farmland.

Table 5. Fish and Wildlife

Will the proposed action result in potential impacts to:	Unknown	Potentially significant	Minor	None	Can be mitigated	Comment
A. Deterioration of critical fish or wildlife habitat?				X		
B. Changes in the diversity or abundance of game animals or bird species?			X		Yes	5B
C. Changes in the diversity or abundance of nongame species?			X			5C
D. Introduction of new species into an area?				X		
E. Creation of a barrier to the migration or movement of animals?			X		Yes	5E
F. Adverse effects on any unique, rare, threatened, or endangered species?				X	Yes	5F
G. Increase in conditions that stress wildlife populations or limit abundance (including harassment, legal or illegal harvest or other human activity)?			X		Yes	5G
H. Will the project be performed in any area in which threatened or endangered species are present, and will the project affect any threatened or endangered species or their habitat?			X			5H, see also 5F
I. Will the project introduce or export any species not presently or historically occurring in the receiving location?				X		

Comments:

5B. The proposed project may increase the abundance and/or diversity of game or bird species in the area by increasing the area of available habitat and providing higher quality habitat conditions both at the scale of Spotted Dog Creek and its floodplain, and across the landscape as a whole. Streams and riparian areas make up a small portion of the landscape yet are important habitats for the majority of western Montana's wildlife species. This project aims to improve the extent and functionality of these habitat types in the largest watershed on the Spotted Dog WMA.

A temporary wildlife exclusion fence would be installed around newly constructed floodplain restoration areas to allow desired woody riparian vegetation to establish (Figure 4). This fence would be designed to prevent use by deer, elk, and moose and would be in place for 5 to 7 years. A large gap would be left between fences to allow movement of animals through the larger project area. A semi-permanent riparian fence is proposed around the entire project area that would limit livestock access, but it is not intended to limit wildlife access within the treatment area. The riparian fence would be constructed to meet wildlife-friendly standards.

Habitat simplification and degraded stream function have likely impacted the abundance of trout species that inhabit the project area. Habitat features such as cover, woody debris and riffle-pool sequences are essential to robust trout populations. Improved stream function and increased habitat complexity associated with this project will likely increase abundances of several species of trout.

5C. The proposed project would improve riparian and wetland habitat conditions and restore channel-floodplain connectivity in a large swath of the available floodplain habitat on the Spotted Dog WMA. Wetlands and riparian areas support the greatest abundance, richness, and diversity of nongame species of any habitat type in Montana. Improving these habitat types through the proposed action would provide habitat for songbirds, shorebirds, waterfowl, amphibians, reptiles, small mammals, and other non-game species. Furthermore, the proposed action has the potential to expand and enhance the ability of beavers to become established and thrive in the project area and beyond. Beavers are considered ecosystem engineers and a keystone species because their habitat-modifying abilities help increase habitat diversity and maintain healthy, well-connected stream channels and floodplains.

Habitat simplification and degraded stream function have likely impacted the abundance and distribution of several native non-game fish species (e.g., longnose sculpin and Columbia slimy sculpin) that inhabit the project area. Improved stream function and increased habitat complexity associated with this project will likely increase abundances and possibly expand distribution of these fish species.

5E. The proposed project would involve constructing non-permanent structures meant to mimic natural beaver dams. These structures are meant to kick-start recovery of the stream channel and encourage beaver colonization of the area. Beaver dam mimicry structures as well as natural beaver dams can both act as partial or complete barriers to fish movement in streams. It is possible that these structures may create seasonal in-stream passage barriers but that impact should be localized, temporary, and species-dependent. Spotted Dog Creek contains non-native brook trout, a fall-spawning fish that would likely be the most heavily impacted by beaver habitat structures. Westslope cutthroat trout (WCT) are also present, but they spawn in the spring when beaver habitat structures are more likely to be inundated by heavy flows to the point they can be easily passed by WCT either by peripheral channels flowing around the beaver habitat structures, or over the top of the structures. In general, the beaver habitat structures are expected to create new floodplain channels and increase fish habitat diversity while helping to recover incised channels. Therefore, impacts to fish movement are likely to be most pronounced immediately after construction and should diminish as the stream system recovers.

Most new channel construction would occur outside of current channel locations and not affect fish passage. Minimal channel construction would occur in the live stream channel. Where streambank treatments would be implemented in the live channel, coffer dams would be installed that maintain passage.

Movement of terrestrial wildlife may be altered during construction as they avoid the area due to human presence and disturbance. However, physical barriers would not be present that inhibit their movement until fences are constructed (see 5B above). Wildlife should be able to move under, over, or through the riparian fence as they do with existing livestock fence that is present in the vicinity of the project area. Large gaps would be left between temporary wildlife exclusion fences to allow movement of animals through the area.

5F. Information on potential threatened or endangered species within the project area was provided by the U.S. Fish and Wildlife Service (USFWS; J. Berglund personal communication 2020). The USFWS indicated that listed species that may occur in the general vicinity of the project area are grizzly bear (*Ursus arctos horribilis*; threatened), Canada lynx (*Lynx canadensis*; threatened), and bull trout (*Salvelinus confluentus* threatened). The proposed wolverine (*Gulo gulo*) may also occur in the general vicinity of the project area. No proposed or designated critical habitat for any of these species overlap with the project area.

The project area is approximately 7 miles upstream from the Little Blackfoot River where bull trout are thought to be present, but extensive efforts by FWP to document the species have been unsuccessful. Therefore, the Clark Fork River, ~15 miles downstream of the project area, is the closest water body with bull trout, where they are considered rare. Sampling of upper Spotted Dog Creek for bull trout using eDNA techniques has not detected the species (USFWS 2020). No impacts to bull trout are expected to occur as a result of the proposed actions. Grizzly bear, Canada lynx, and wolverine are expected to occur as uncommon residents in the general area, and transients in the project area. As such, construction activities may result in temporary disturbance to these three species if present during construction, while restoration may provide habitat benefits in the long term. Consequently, while project implementation may affect these species, it would generally not result in adverse impacts.

Food and trash storage would be implemented during construction to minimize potential for bear attractants, including:

- Promptly cleaning up any project related spills, litter, garbage, debris, etc.
- Allow no overnight camping within the project vicinity, except in designated campgrounds, by any crew member or other personnel associated with this project.
- Store all food, food-related items, petroleum products, antifreeze, garbage, personal hygiene items, and other attractants inside a closed, hard-sided vehicle or commercially manufactured bear resistant container.
- Remove garbage from the project site daily and dispose of it in accordance with all applicable regulations.
- Notify the Project Manager of any animal carcasses found in the area.
- Notify the Project Manager and FWP Staff of any grizzly bears observed in the vicinity of the project.

Sources of existing information for rare animal species included data requested from the Montana Natural Heritage Program (MNHP 2016). One SOC, westslope cutthroat trout (WCT; *Oncorhynchus clarki lewisi*), is present within the proposed project area. Other SOC reported within a one-mile radius of the proposed project area include great blue heron (*Ardea herodias*) and northern goshawk (*Accipiter gentilis*; MNHP 2016).

WCT is a SOC with a state rank of S2 and a global rank of G5T4. Two federal agencies, USFS and the BLM, rank this species as sensitive. Conservation groups and nine government agencies within Montana have worked together to develop a WCT Conservation Agreement (MFWP 1999). Lindstrom et al. (2008) report populations of WCT throughout Spotted Dog Creek. Upstream of the project area the fish community is characterized by lower densities of trout where WCT are the dominant species with low abundance of eastern brook trout and very low abundance of Columbia slimy sculpin. Moving downstream towards the project area densities of trout increase and the community begins to shift towards a higher proportion of brook trout and a lower proportion of WCT with no presence of Columbia slimy sculpin. From the project area downstream densities of trout continue to increase with brook trout being the dominant species. Longnose suckers are also present in low densities in this reach (C. Uerling personal communication 2020).

The proposed project would have short-term negative impacts to in-stream habitat and resident fish populations. Fish salvage would occur as needed to move fish from abandoned channels prior to dewatering. Short-term increases in fine sediment delivered to the stream are expected when constructing or removing channel plugs associated with channel realignment. In-water work for constructing streambanks would also contribute fine sediment, but coffer dams would limit the dispersal of this sediment throughout the channel. The proposed beaver habitat structures may create ponding conditions that non-native species may prefer for spawning habitat. However, these structures are expected to create new floodplain channels and increase the diversity of fish habitat. Sediment delivery is expected to be short-term, only during construction work, and sediment should clear from the water column each day at the end of work. Overall, the project is expected to improve aquatic habitat in the restored reaches and benefit WCT and other aquatic species.

The great blue heron is a SOC with a state rank of S3 and a global rank of G5. It was given a rank of S3 due to evidence of recent declines, small breeding populations, and threats to riparian forests such as altered hydrology and grazing which have resulted in declined forest regeneration. Heron rookeries in the vicinity of the project area are generally found along rivers and streams with old-growth cottonwood or ponderosa pine forests, and these rookeries can be impacted by disturbance such as roads or recreation especially during the nesting season (MNHP 2020b). Great blue herons are uncommon and transient in the project area and are usually associated with beaver ponds on Spotted Dog WMA (T. Ritter, MFWP, personal communication). No heron rookeries occur within several miles of the project area and it is highly unlikely one would be found or established near the project area during implementation. Restoration actions would likely improve foraging and stopover habitat for great blue herons through the creation of side channels, pools, and floodplain wetlands and through the potential expansion of beaver activity.

The northern goshawk is a SOC with a state rank of S3 and a global rank of G5. This species is a year-round resident in western Montana. Although typically an upland bird, this species may occasionally use riparian areas to hunt during incidental foraging. Northern goshawks are not noted in the project area, but the species is reported within one mile of the project area (MNHP 2020). A 2010 Environmental Assessment for the acquisition of the WMA noted that many forest patches that would support goshawk nesting have been removed from the WMA (MFWP 2010). Most project activities are planned within the riparian area rather than forested areas and the proposed activities are not expected to impact northern goshawks. The restoration actions may enhance habitat goshawks use for hunting as riparian shrubs recover and prey species begin to use the enhanced riparian habitat.

5G. Noise from construction may temporarily discourage typical wildlife use of the area while equipment is in operation. Long-term, the project would improve habitat conditions, including increasing the area of woody riparian vegetation along the channel that provides diverse structure for hiding and forage for wildlife species.

5H. No threatened or endangered species are reported in the project area but may occur in the general vicinity of the project area. The project is not expected to adversely impact any threatened or endangered species or their habitat.

B. Human Environment

Table 6. Noise and Electrical

Will the proposed action result in potential impacts to:	Unknown	Potentially significant	Minor	None	Can be mitigated	Comment
A. Increases in existing noise levels?			X		Yes	6A
B. Exposure of people to serve or nuisance noise levels?				X		
C. Creation of electrostatic or electromagnetic effects that could be detrimental to human health or property?				X		
D. Interference with radio or television reception and operation?				X		

Comments:

6A. During construction, noise levels would increase from the existing condition due to machinery operation. This would be a short-term impact only occurring while equipment is in operation and ending when construction is complete. Work hours would typically occur during normal daylight hours.

Table 7. Land Use

Will the proposed action result in potential impacts to:	Unknown	Potentially significant	Minor	None	Can be mitigated	Comment
A. Alteration of or interference with the productivity or profitability of the existing land use of an area?				X		
B. Conflict with a designated natural area or area of unusual scientific or educational importance?				X		
C. Conflict with any existing land use whose presence would constrain or potentially prohibit the proposed action?				X		
D. Adverse effects on or relocation of residences?				X		7D

Comments:

7D. The proposed project occurs within the Spotted Dog WMA and it does not conflict with goals stated in the SDWMA Habitat Plan (Spotted Dog Work Group and MFWP 2018). Short-term disturbance to hunting and fishing recreation may occur during project construction as game animals avoid the area and fish are disturbed by in-channel activities. A riparian fence would be constructed to limit access to newly constructed streambank and floodplain areas, but it would not limit access to other areas of the WMA. The anticipated schedule for project construction would occur during hunting season. The project would not restrict hunting, but game animals may avoid the area during construction. Long-term, the project would benefit fish and wildlife, including game species, by providing improved habitat conditions that are expected to enhance fishing and hunting opportunities on the WMA.

Table 8. Risk and Health Hazards

Will the proposed action result in potential impacts to:	Unknown	Potentially significant	Minor	None	Can be mitigated	Comment
A. Risk of an explosion or release of hazardous substances (including, but not limited to oil, pesticides, chemicals, or radiation) in the event of an accident or other forms of disruption?			X		Yes	8A
B. Affect an existing emergency response or emergency evacuation plan or create a need for a new plan?				X		
C. Creation of any human health hazard or potential hazard?				X		
D. Will any chemical toxicants be used?				X		

Comments:

8A. Construction equipment would use engine oil, fuel, and other substances for operation. Best management practices would be used to prevent any spill or accidental release of these substances. All equipment would be kept in good working order. All equipment would be staged and maintained away from sensitive resources such as streams and wetlands. Spill kits would be kept on-site in designated areas to be deployed in the event of an accidental spill.

Table 9. Community Impact

Will the proposed action result in potential impacts to:	Unknown	Potentially significant	Minor	None	Can be mitigated	Comment
A. Alteration of the location, distribution, density, or growth rate of the human population of an area?				X		
B. Alteration of the social structure of a community?				X		
C. Alteration of the level or distribution of employment or community or personal income				X		
D. Changes in industrial or commercial activity?				X		
E. Increased traffic hazards or effects on existing transportation facilities or patterns of movement of people and goods?				X		

Comments

The proposed project would limit use of restored areas by unauthorized livestock within the project area, but cattle are not permitted on this portion of the WMA, so no adverse impacts to authorized grazing practices would occur. No other impacts to the community are expected. Overall, the project benefits the community by improving habitat conditions within public lands.

Table 10. Public Services, Taxes and Utilities

Will the proposed action result in potential impacts to:	Unknown	Potentially significant	Minor	None	Can be mitigated	Comment
A. Will the proposed action have an effect upon or result in a need for new or altered governmental services in any of the following areas: fire or police protection, schools, parks/recreational facilities, roads or other public maintenance, water supply, sewer or septic systems, solid waste disposal, health, or other governmental services? If any, specify:				X		
B. Will the proposed action have an effect upon the local or state tax base and revenues?				X		10B
C. Will the proposed action result in a need for new facilities or substantial alterations of any of the following utilities: electric power, natural gas, other fuel supply or distribution systems, or communications?				X		
D. Will the proposed action result in increased used of any energy source?				X		
E. Define projected revenue sources				X		
F. Define projected maintenance costs			X		Yes	10F

Comments:

10B. Project construction would occur during hunting season and therefore some hunters may be displaced during implementation. The project would not restrict hunting, but game animals may avoid the area during construction. Long-term, the project would benefit wildlife, including game species, by providing improved habitat conditions.

10F. Projected maintenance activities would likely include fence repairs, weed management, and potentially short-term repairs during the first few years after construction. Specific maintenance items and associated costs would be developed following project implementation. Other post-project costs may include monitoring activities.

Table 11. Aesthetics and Recreation

Will the proposed action result in potential impacts to:	Unknown	Potentially significant	Minor	None	Can be mitigated	Comment
A. Alteration of any scenic vista or creation of an aesthetically offensive site or effect that is open to public view?			X		Yes	11A
B. Alteration of the aesthetic character of a community or neighborhood?				X		
C. Alteration of the quality or quantity of recreational/tourism opportunities and settings?			X		Yes	11C
D. Will any designated or proposed wild or scenic rivers, trails or wilderness areas be impacted?				X		

Comments:

11A. During construction, earth-moving equipment and activities associated with channel realignment and floodplain grading would temporarily alter the scenic vista of Spotted Dog Creek and would create areas of bare ground that would be revegetated following construction. Long-term, the proposed project is intended to improve vegetation conditions along Spotted Dog Creek, resulting in increased woody vegetation cover along the channel and in the floodplain, improving the visual aesthetic of the area and wildlife-viewing opportunities.

11C. Public access would be controlled within the construction zone during project implementation for safety. The public would still have access to the general vicinity surrounding the project area. Construction activities would occur during time periods when the WMA is open to the public and may occur during hunting season. Recreationalists may be displaced from the project area during implementation and game animals may avoid the general area due to noise and human disturbance. However, these impacts are temporary and improving habitat conditions in the riparian area would likely enhance recreational opportunities in the long-term.

Table 12. Cultural and Historical Resources

Will the proposed action result in potential impacts to:	Unknown	Potentially significant	Minor	None	Can be mitigated	Comment
A. Destruction or alteration of any site, structure or object of prehistoric, historic, or paleontological importance?			X		Yes	12A
B. Physical change that would affect unique cultural values?				X		
C. Effects on existing religious or sacred uses of a site or area?	X				Yes	12C, see also 12A
D. Will the project affect historic or cultural resources?			X		Yes	12D, see also 12A

Comments:

12A. A field investigation for cultural and historical resources in the project area was completed in 2019 (Rossillon 2020). Prior to the field investigation, the Montana State Historic Preservation Office (SHPO) completed a file search for cultural resource inventory reports and previously recorded sites in the vicinity of the project. The results of the search identified a single inventory in Sections 25, 26, and 30 about 550 feet north of the project area (cited in Rossillon 2020). That inventory did not identify any culturally or historically significant sites. However, the field investigation identified four sites within the project area, two of which may be National Register eligible. The two eligible sites were marked as temporary avoidance areas and additional archaeological testing of these sites is required to determine eligibility for National Register listing prior to construction in those areas. If archaeologically significant cultural materials are found no construction would be allowed in these areas.

12C. Use of the project area for religious or sacred purposes is unknown. During construction, the proposed project would alter use of the project area by controlling access within the construction zone. Long-term, access would not change from the current condition and no long-term impacts are anticipated to religious or sacred uses of the area.

12D. A field investigation as well as a SHPO file search were completed for the project area. Two sites potentially eligible for the National Register were identified and require further testing prior to construction. If archaeologically significant cultural materials are found, no construction would be allowed in these areas.

C. Summary of Significance Criteria

The table below summarizes significance criteria of the proposed restoration alternative for the Upper Spotted Dog Creek Restoration Project.

Table 13. Summary evaluation of significance criteria

Will the proposed action, considered as a whole:	Unknown	Potentially significant	Minor	None	Can be mitigated	Comment
A. Have impacts that are individually limited, but cumulatively considerable? (A project or program may result in impacts on two or more separate resources which create a significant effect when considered together or in total.)			X		Yes	13A
B. Involve potential risks or adverse effects which are uncertain but extremely hazardous if they were to occur?			X		Yes	13B
C. Potentially conflict with the substantive requirements of any local, state, or federal law, regulation, standard or formal plan?				X		
D. Establish a precedent or likelihood that future actions with significant environmental impacts will be proposed?				X		
E. Generate substantial debate or controversy about the nature of the impacts that would be created?				X		
F. Is the project expected to have organized opposition or generate substantial public controversy?				X		
G. List any federal or state permits required.			X		Yes	13G

Comments:

13A. Short-term impacts are anticipated during project construction; however, the project provides cumulative long-term benefits by improving instream and floodplain habitat conditions in the project area as well as protection of riparian and wetland areas from unauthorized livestock use.

13B. Potential risks are minor and are associated with equipment operation and potential for damage to the project if major flood events were to occur immediately following construction. Best management practices would be implemented to minimize risks associated with equipment operation. Proposed in-channel and streambank treatments would provide short-term stability as woody riparian vegetation that would provide long-term stability establishes in the project area from revegetation treatments.

13G. Additional agency coordination and permits for the project would include:

- U.S. Army Corps of Engineers – Section 404 permit
- Montana Department of Fish, Wildlife, and Parks – Stream Protection Act 124 permit
- Montana Department of Environmental Quality – Short-term water quality standard for turbidity 318 authorization

V. PUBLIC PARTICIPATION

1. Public involvement

The public will be notified in the following manners about the opportunity to comment on this current EA, the proposed action, and alternative:

- Legal notices will be published twice each in each of these newspapers: *Independent Record* (Helena), *Missoulian*, *Montana Standard* (Butte), and *Silver State Post* (Deer Lodge).
- Public notice will be posted on FWP's webpage: <http://fwp.mt.gov> ("News," then "Public Notices"). The Draft EA would also be available on this webpage, along with the opportunity to submit comments online.
- A news release would be prepared and distributed to a standard list of media outlets interested in FWP issues. This news release would also be posted on FWP's website <http://fwp.mt.gov> ("News").
- Direct mailing or email notification would be made to adjacent landowners and other interested parties (individuals, groups, agencies) to ensure their knowledge of the proposed project.
- Copies would be available at the FWP Region 2 Headquarters in Missoula and the FWP State Headquarters in Helena.
- Copies of this draft EA may be obtained by mail from Region 2 FWP, 3201 Spurgin Rd., Missoula 59804; by phoning 406-542-5540; by emailing shrose@mt.gov; or by viewing FWP's Internet website <http://fwp.mt.gov> ("Public Notices").

This level of public notice and participation is appropriate for a project of this scope with no significant physical or human impacts and only minor impacts that can be mitigated.

2. Duration of comment period

The public comment period will extend for thirty (30) days beginning May 15, 2020. Comments must be received by FWP no later than June 15, 2020.

Comments may be made online on the EA's webpage, emailed to Sharon Rose at shrose@mt.gov, or mailed to the FWP address below:

Region 2 FWP
Attn: Sharon
3201 Spurgin Rd
Missoula, MT 59804

VI. ENVIRONMENTAL ASSESSMENT CONCLUSION SECTION

1. Based on the significance criteria evaluated in this EA, is an EIS required? No

If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action.

No, an EIS is not required. Based on an evaluation of the primary, secondary, and cumulative impacts to the physical and human environment, no significant impacts from the proposed acquisition were identified. In determining the significance of the impacts of the proposed project, FWP assessed the severity, duration, geographic extent, and frequency of the impact, the probability that the impact would occur, or reasonable assurance that the impact would not occur. FWP assessed the importance to the state and to society of the environmental resource or value affected; any

precedent that would be set as a result of an impact of the proposed action that would commit FWP to future actions; and potential conflicts with local, federal, or state laws. As this EA revealed no significant impacts from the proposed actions, an EA is the appropriate level of review and an EIS is not required.

2. Persons responsible for preparing the EA

Alicia Stickney, Natural Resource Damage Program, Helena, MT
Doug Martin, Natural Resource Damage Program, Helena, MT
Amy Sacry, Geum Environmental Consulting
Torrey Ritter, FWP Region 2 Nongame Wildlife Biologist, Missoula, MT
Caleb Uerling, FWP Region 2 Area Fisheries Biologist, Missoula, MT
Sharon Rose, FWP Region 2 Comment Coordinator, Missoula, MT

3. List of agencies or offices consulted during preparation of the EA

Montana Fish, Wildlife & Parks:
Wildlife, Missoula, MT
Fisheries, Missoula, MT

REFERENCES

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APPENDIX A. Upper Spotted Dog Creek Restoration Design Plan Set (RDG 2020)

Part 1 (Sheets 1.0-3.1; 4 pages)

Part 2 (Sheets 4.0-4.4; 5 pages)

Part 3 (Sheets 5.0-5.3; 4 pages)

Part 4 (Sheets 5.4-5.7; 4 pages)

Part 5 (Sheets 5.8-5.12; 5 pages)

Part 6 (Sheets 6.0-8.2; 12 pages)

Please note that the Appendix totals an additional 34 pages and is not included in this printed copy of the Draft EA.

- You can find the Appendices on the EA's webpage on MFWP's website; please see webpage information in the 2nd bullet under section **V.1. Public Involvement** (above).*
- Or contact Sharon Rose at MFWP; please see contact information in the 6th bullet under section **V.1.***